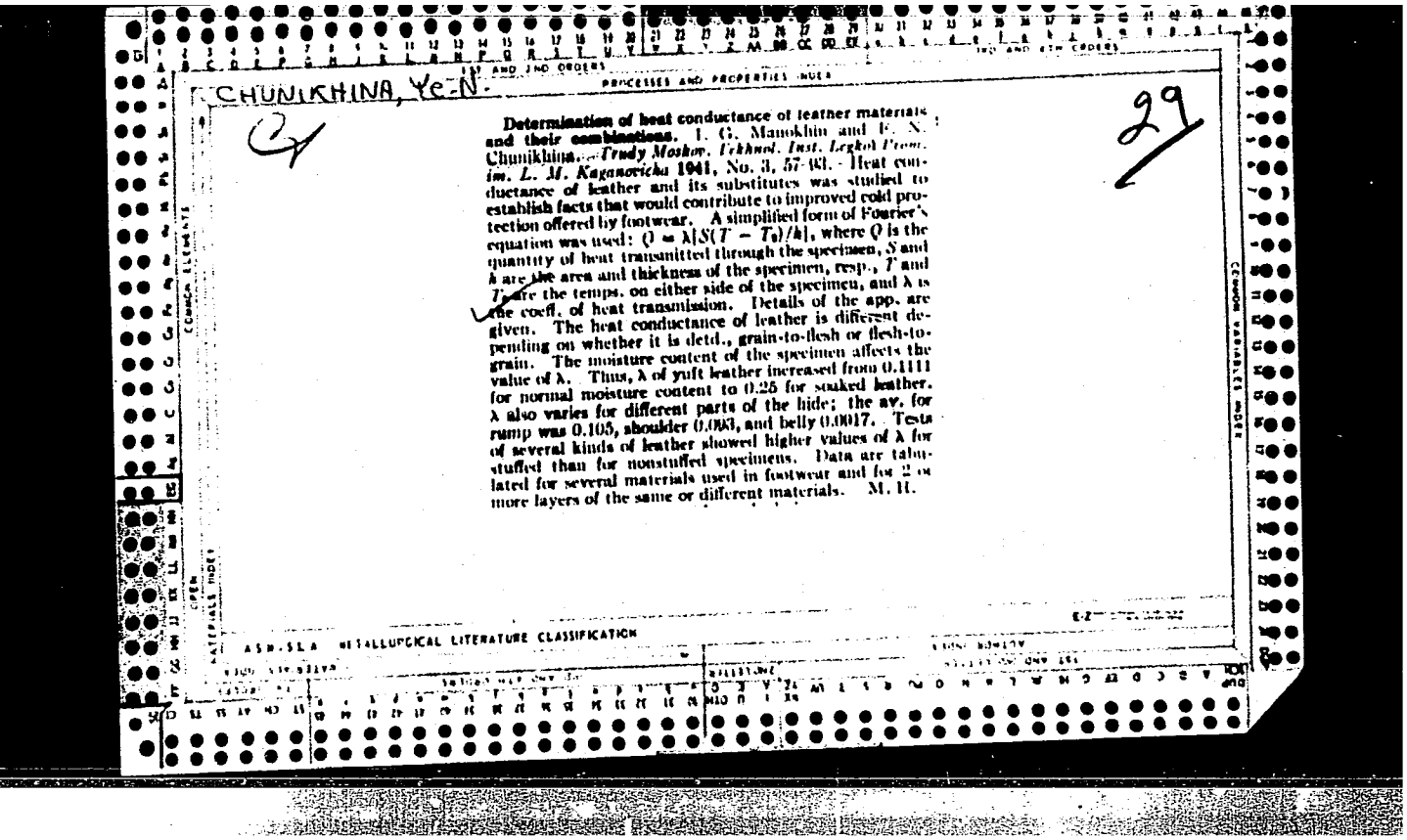
CHUNIKHINA, N.A.

Course of the third period of labor in women with plural pregnancy. Sbor.nauch.trud.Kaf.akush. i gin. 1 IMI no.2:234-239'61. (MIRA 16:7)

(LABOR, COMPLICATED) (BIRTH, MULTIPLE)



CHUNIKHINA, Ye.N.

29

Determination of heat conductance of leather materials and their combinations. I. G. Manokhin and E. N. Chunikhina. *Trudy Moskov. Tekhnol. Inst. Legkoi Prom. im. L. M. Kaganovicha* **1941**, No. 3, 57-61. - Heat conductance of leather and its substitutes was studied to establish facts that would contribute to improved cold protection offered by footwear. A simplified form of Fourier's equation was used: $Q = \lambda[S(T - T_0)/h]$, where Q is the quantity of heat transmitted through the specimen, S and h are the area and thickness of the specimen, resp., T and T_0 are the temps. on either side of the specimen, and λ is the coeff. of heat transmission. Details of the app. are given. The heat conductance of leather is different depending on whether it is detd., grain-to-flesh or flesh-to-grain. The moisture content of the specimen affects the value of λ. Thus, λ of yuft leather increased from 0.1111 for normal moisture content to 0.25 for soaked leather. λ also varies for different parts of the hide; the av. for rump was 0.105, shoulder 0.093, and belly 0.0017. Tests of several kinds of leather showed higher values of λ for stuffed than for nonstuffed specimens. Data are tabulated for several materials used in footwear and for 2 or more layers of the same or different materials. M. H.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CHUNIN, A.A. (Novgorod); VOLKOV, V.P. (Novgorod)

Models of automatic devices for program control. Fiz. v shkole 20 no.6:62-65 N-D '60. (MIRA 14:2)
(Automatic control)

KRYLOV, Ye.I.; CHUKHLANTSEV, V.G.; CHUNIN, V.S.

Studying solubility in the system tantalum pentoxide - selenic acid-water. Izv.vys. ucheb. zav.; tsvet. met. no.3:97-101 '58.
(MIRA 11:11)

1. Ural'skiy politekhnicheskiy institut. Kafedra khimii i tekhnologii redkikh metallov.
(Systems (Chemistry)) (Solubility)

5(4)

SOV/78-4-2-34/40

AUTHORS: Chukhlantsev, V. G., Krylov, Ye. I., Chunin, V. S.

TITLE: Investigation of the System Selenic Acid - Niobium Pentoxide - Water by the Solubility Method (Issledovaniye sistemy selenovaya kislota - pyatiokis' niobiya - voda metodom rastvorimosti)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 2, pp 478-482 (USSR)

ABSTRACT: The solubility of niobium pentoxide in solutions of selenic acid of various concentrations was investigated at temperatures of 25, 50, 75, and 100°C. Purest Nb_2O_5 (99.97%) and selenic acid (99.8%) were used as initial materials. The results show that the solubility of Nb_2O_5 rises with the increase of the concentration of H_2SeO_4. Upon doubling the concentration of selenic acid the solubility of Nb_2O_5 is increased 29 times at 25° and 120 times at 100°. In the system Nb_2O_5-SeO_3-H_2O the solid phase in the concentration range of 14-33 N H_2SeO_4 consists of variously hydrated niobium pentoxide only. This

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Investigation of the System Selenic Acid - Niobium Pentoxide - Water by the Solubility Method

fact was proved by means of the radioactive indicator Co^{60}. The roentgenograms of the solid phases confirm the amorphous character of hydrated niobium pentoxide. Niobium pentoxide gel is hydrated in a 60% selenic acid solution while a hydrate is formed with a composition similar to that of ortho-niobic acid: $H_3NbO_4 \cdot 0.5H_2O$. Upon a further concentration increase of selenic acid this hydrate is dehydrated. There are 1 figure, 3 tables, and 16 references, 7 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: December 3, 1957

CHUNOSOV, M.N.

Organization of veterinary hygiene expertise at the meat combines in White Russia. Veterinariia 42 no.10:14-15 O '65.

(MIRA 18:10)

1. Nachal'nik veterinarnoy inspektsii soveta narodnogo khozyaystva Belorusskoy SSR.

DEM'YANCHENKO, G.F., kand.veterin.nauk; CHEBOTAREV, R.S., akademik; CHUNOSOV, M.N.

Parasitological situation in the White Russian S. S. R. Trudy [redacted] 1:204-210 '60. (MIRA 15:10)

1. Akademiya sel'skokhozyaystvennykh nauk Belorusskoy SSR.
(White Russia—Veterinary parasitology)

MUSIN, M.Kh.; CHERNOMORSKIY, V.N.; CHUNOSOV, P.I.

Structure and correlation of sand beds in the terrigenous formation of the Lower Carboniferous in Bashkiria. Geol. nefti i gaza 7 no.6:38-41 Je '63. (MIRA 16:9)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.

CHUNOSOV, I.I.

Effect of well spacing on petroleum losses in the Nizhne-Khazino area in the Arlan oil field. Geol. nefti i gaza 9 no.4:22-27 Ap '65. (MIRA 18:8)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.

MUSIN, M.Kh.; CHUNOSOV, P.I.

Structure of reservoir rocks and oil pools in the terrigenous formation of the Lower Carboniferous of the Novokhazino area. Geol. i geofiz. no.5:31-38 '64. (MIRA 17:9)

1. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut.

CHUNOSOV, V. I.

Determination of iron and aluminum in cements by method of amperometric titration. V. I. Chunosov (State Univ., Saratov). *Tsement* 21, No. 5, 22–4(1955).—Dissolve a 1-g. sample in 5 ml. HCl (1:1) and 0.5 ml. HNO_3 (1:1). Dil. to 100 ml. Use 10–15 ml. and, with the aid of urotropine, make an amperometric titration (Fe at 30 mv. and Al at 500 mv.). Det. results from the curve. The error is not over 0.18% for Fe and 0.13% for Al. B. Z. Kamich.

5(2) SOV/156-59-1-16/54

AUTHORS: Chunosov, V. I., Lenskaya, V. N.

TITLE: Investigation of the Interaction of Potassium Ferrocyanide With Calcium and Magnesium Salts by the Method of Amperometric Titration (Izucheniye vzaimodeystviya ferrotsianida kaliya s solyami kal'tsiya i magniya metodom amperometricheskogo titrovaniya)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 67 - 69 (USSR)

ABSTRACT: Amperometric titration which is mainly used for practical purposes of rapid analyses can also be used for solving theoretical problems. Two different curves were measured (Diagram, Fig 1) in the titration of calcium salts. The first curve is formed with a large KCl excess and shows a marked minimum with subsequent increase of the diffusion current. The second curve, however, shows a flat course after the minimum. The end points of both curves do not coincide. For precipitating the same quantity of calcium, but different quantities of ferrocyanide are necessary. Graduation curves (Diagram, Fig 2) were plotted for both curves:

abscissa - ml Ca salt, ordinate - ml potassium ferrocyanide, which corresponded to the end points measured. The rectilinear course of these graduation curves indicates that the ratio between calcium and ferrocyanide remains constant, but is different for each of the two titration curves (Table). Thus there are two precipitates. The first one corresponds to the formula $CaK_2[Fe(CN)_6]$, the second one to the formula $Ca_4K_4[Fe(CN)_6]_3$. The second compound is little soluble as may be seen from the constancy of the diffusion current. The first compound probably forms a new soluble compound, $Ca_3K_{10}[Fe(CN)_6]_4$, in the ferrocyanide excess, thus causing again an increase of the diffusion current after attaining the end point. Consequently, the stability of the precipitate formed may be assumed on account of the course of the diffusion current after attaining the end point. On the titration of magnesium salts the diffusion current showed two minima. The points of the second minimum only could be arranged on a

Investigation of the Interaction of Potassium Ferrocyanide With Calcium and Magnesium Salts by the Method of Amperometric Titration SOV/156-59-1-16/54

calibration curve and correspond to the formula $MgK_{10}[Fe(CN)_6]_3$. The precipitate of the first minimum is unstable and passes during the titration into the compound mentioned above. There are 2 figures, 1 table and 4 Soviet references.

ASSOCIATION: Kafedra analiticheskoy khimii Saratovskogo gosudarstvennogo universiteta im. N. G. Chernyshevskogo (Chair of Analytical Chemistry of Saratov State University imeni N. G. Chernyshevskiy)

SUBMITTED: July 8, 1958

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CHUNOSOV, V.V.

Vibration pile sinker for use on contact networks. Elek.i tepl.tiaga no.8:23-24 Ag '57. (MIRA 10:8)

1.Nachal'nik proyektno-konstruktorskogo byuro TsE Ministerstva putey soobshcheniya.
(Electric railroads) (Piling (Civil engineering))

CHUNOSOVA, V.N.

Determination of the watering time of sugar beets based on cell sap concentration. Fiziol rast. 10 no.2:234-237 Mr-Ap '63. (MIRA 16:5)

1. Kabardino-Balkar State Agricultural Experimental Station, Kuyan.
(Kabardino-Balkar A.S.S.R.— Sugar beets—Water requirements)

CHUNTS, G. V.

Zaedanie v shlitsevykh soedineniiakh. (Vestn. Mash., 1951, no. 6, p. 17-18)

Jamming of splined joints.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

KRASNIKOV, N.V.; CHUNTS, Z.G.

The VGI vibratory horizontal centrifuge. Biul.tekh.-ekon.inform. Gos.nauch.-issl.inst.nauch i tekh.inform. 16 no5:10-11'63. (MIRA 16:7)

(Centrifuges)

CHUNTU, G.I., inzh.

Preliminary coal wetting in coal blocks. Bezop. truda v prom. 2 no.11: 31-33 N '58. (MIRA 11:11)

1. Nachal'nik ventilyatsii shakhty "Kapital'naya-2"
(Coal mines and mining)

CHUNTU, G.I., inzh.

Explosiveness of the coal dust of seams in Osinniki deposits.
Bezop.truda v prom. 3 no.12:8-9 D '59. (MIRA 13:4)

1. Nachal'nik ventilyatsii shakhty "Kapital'naya-2,"
Osinovskoye mestorozhdeniye, Kuznetskiy basseyn.
(Kuznetsk Basin—Mine dusts—Safety measures)

CHUNTULOV, V.T.

CHUNTULOV, V.T.

Economic upsurge of the Ukrainian S.S.R. during the 40 years of the Soviet regime. Visnyk AN URSR 28 no.11:9-20 N '57 (MIRA 10:12)
(Ukraine--Economic conditions)

CHUNTULOV, Vladimir Timofeyevich; KOBA, M., red.; LAPCHENKO, K., tekhn. red.

[Ukrainian economy in full development] Rozkvit ekonomiky Ukrains'koi RSR. Kyiv, Derzh. vyd-vo polit. lit-ry URSR, 1958. 64 p. (MIRA 12:8)

(Ukraine--Economic conditions)

KONSEVICH, A.I. [Konsevych, A.I.]; CHUNTULOV, V.T.

Book on the development of industry in the Ukraine ("Development of industry in the Ukraine" by O.O.Nesterenko. Pt.1: Trades and manufacture. Reviewed by A.I.Konsevych, V.T.Chuntulov). Dop.AN URSR no.1:125-127 '60. (MIRA 13:6)

(Ukraine—Industries) (Nesterenko, O.O.)

PASHCHENKO, I.P.; CHUNTULOV, V.T.

The reform of 1861 and the development of agrarian relations in the Ukraine. Dop.AN URSR no.8:1137-1139 '60. (MIRA 13:9)
(Ukraine--Land tenure)

GRIGOR'YEV, A.M. [Hrihor'iev, A.M.]; KRIVCHENKO, G.O. [Kryvchenko, H.O.], prof. [deceased]; STAROVOYTENKO, I.P.; USTINOVA, L.A. [Ustynova, L.A.]; CHUNTULOV, V.T.; GOLOVNYAK, L.P. [Holovnyak, L.P.], red.; KHOKHONOVSKAYA, T.I. [Khokhanovs'ka, T.I.], tekhn. red.

[Economic and geographical features of the Ukrainian S.S.R.] Ukrains'ka RSR; ekonomiko-geografichna kharakterystyka. Kyiv, Vyd-vo Kyivs'koho univ., 1961. 208 p. (MIRA 14:10)
(Ukraine—Economic geography)

CHUNTULOV, V.T.

"Seven-year plan for the national economy of the Ukrainian S. S. R. Present state and prospective development." Reviewed by V.T. Chuntulov. Dop. AN URSR no.8:1102-1105 '61. (MIRA 14:9)

(Russia--Economic policy)

CHUNTULOV, V.T., dotsent, kand.istor.nauk

Useful research ("Struggle of the Communist Party of the Ukraine for improvement in the cultural and technical level of the working class" by N.Miliukova. Reviewed by V.T. Chuntulov). Nauka i zhyttia 11 no.1:62-63 Ja '61. (MIRA 14:3)
(Ukraine--Communist Party of the Soviet Union)
(Miliukova, N.)

PANASHCHENKO, I.P., dots.; CHUNTULOV, V.T., dots.; POGREBINSKIY, A.P., prof.; SPATAR, N.G., dots.; LAUTA, S.P., dots.; USTINOVA, L.A., dots.; KRIVEN', P.V., prof.; FILIPPOV, V.I., dots.; GOLUBEV,V.A., kand. ekon. nauk; DZYUBKO, I.S., dots.; GRIGOR'YEV,A.N., dots.; ZATSEPILIN, V.G., dots.; TERESHCHENKO, V.F.; LOYBERG, M.Ya., kand. ist. nauk ; ORLIK, Ye.L., red.; KHOKHANOVSKAYA, T.I., tekhn. red.

[Economic history of foreign countries]Ekonomicheskaia istoriia zarubezhnykh stran; kurs lektsii. Kiev, Izd-vo Kievskogo univ. Pt.2.[From the 1870's to the present time]Ot 70-kh godov XIX v. do nastoiashchego vremeni. 1961. 387 p. (MIRA 15:11)

1. Prepodavateli kafedr politicheskoy ekonomii i istorii narodnogo khozyaystva Kiyevskogo instituta narodnogo khozyaystva (for all except Orlik, Khokhanovskaya).

(Economic history)

POGREBINSKIY, A.P., prof.; BOBOVICH, I.M., dots.; AVDAKOV, Yu.K., dots.; PAZHITNOVA, T.K., dots.; CHUNTULOV, V.T., dots.; POLYANSKIY, F.Ya., prof.; FRIDBERG, L.Ya., dots.; DOROSHENKO, V.V., dots.; TALYBEKOV, S.Ye., prof.; FADEYEV, A.V., prof.; AMINOV, A.M., prof.; BOROVOY, S.Ya., prof.; KONYAYEV, A.I., dots.; SHEMYAKIN, I.N., prof.; PONYATOVSKAYA, N.P., dots.; SARYCHEV, V.G., dots.; GOLUBNICHIY, I.S., prof.; VOSKRESENSKAYA, T., red.; NEZNANOV, V., mlad. red.; MOSKVINA,R., tekhn. red.

[Economic history of the U.S.S.R.] Ekonomicheskaia istoriia SSSR. Moskva, Sotsekgiz, 1963. 509 p. (MIRA 17:2)

CHUNTYZHEV, Kh.O.; PRONIN, S.V.; LISOVSKIY, Yu.P.; MARTYNOV, V.D.; [redacted]AN, S.B.; FARIZOV, I.O.; ALEKSANDROVSKAYA, L.I.; USOV, G.A.: TIMUR, M.; YURLOV, P.F.; AFANAS'YEV, L.A., otv. red.; GARSIA, L., red.; DARONYAN, M., mladshiy red.; NOGINA, N., tekhn. red.

[Agricultural cooperation under the conditions of capitalism] Sel'skokhoziaistvennaia kooperatsiia v usloviiakh kapitalizma. Moskva, Sotsekgiz, 1963. 350 p. (MIRA 16:9)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezhdunarodnykh otnosheniy.
(Agriculture, Cooperative) (Capitalism)

CHUPAK, I. S.

Sugar Industry - Accounting

Improve the method for determining turn over of circulating capital. Sakh. prom. 27, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

CHUPAK, I.S.

Annual reports, Sakh.prom. 29 no.4:33 '55. (MLRA 8:9)

1. Ukrainskoye glavnoye upravleniye sakharnoy promyshlennosti
(Sugar industry--Accounting)

FEDORENKO, Petr Sidorovich; GRINSHPON, Z.D.; CHUPAK, I.S., red.

[Organizing the accounting for and calculation of stock-farm production] Organizatsiia ucheta i kal'kulirovanie produktsii skotootkormochnykh khoziaistv. Kiev, Gossel'khozizdat USSR, 1963. 205 p. (MIRA 18:1)

CHUPAKHINA, R.; CHUPAKHIN, A.

"Glole"; geographical annual for children. Reviewed by R. Chupakhina, A. Chupakhin. Geog. v shkole 25 no.5:90-91 S-O '62. (MIRA 15:9)

(Geography--Juvenile literature)

CHUFAKHIN, A.Ya.

Automatic systems for ammonia refrigerating plants. Khol.tekh. 42 no.2:23-25 Mr-Ap '65. (MIRA 18:5)

1. Gosudarstvennyy institut po proyektirovaniyu i issledovaniyu vzryvobezopasnogo elektrooborudovaniya.

LAZEBNIK, F.M.; [illegible]

Control of the temperature of the [illegible] of [illegible] compressors. Khol.tekh. 42 no.2:57-58 Mr-Ap '65. (MIRA 18:5)

1. Gipronisel'[illegible].

CHUPAKHIN, B.Ya., inzh.

Efficiency of boilers operating on gaseous fuel. Prom. energ. 18 no.8:33-35 Ag '63. (MIRA 16:9)
(Boilers)

1. CHUPAKHIN, I. Ya.

2. USSR (600)

4. Logic

7. Logic in the light of I. V. Stalin's work "Marxism and problems in linguistics." Vest. Len. un 7, No. 5, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, May 1953. Unclassified

CHUPAKHIN, M.A.

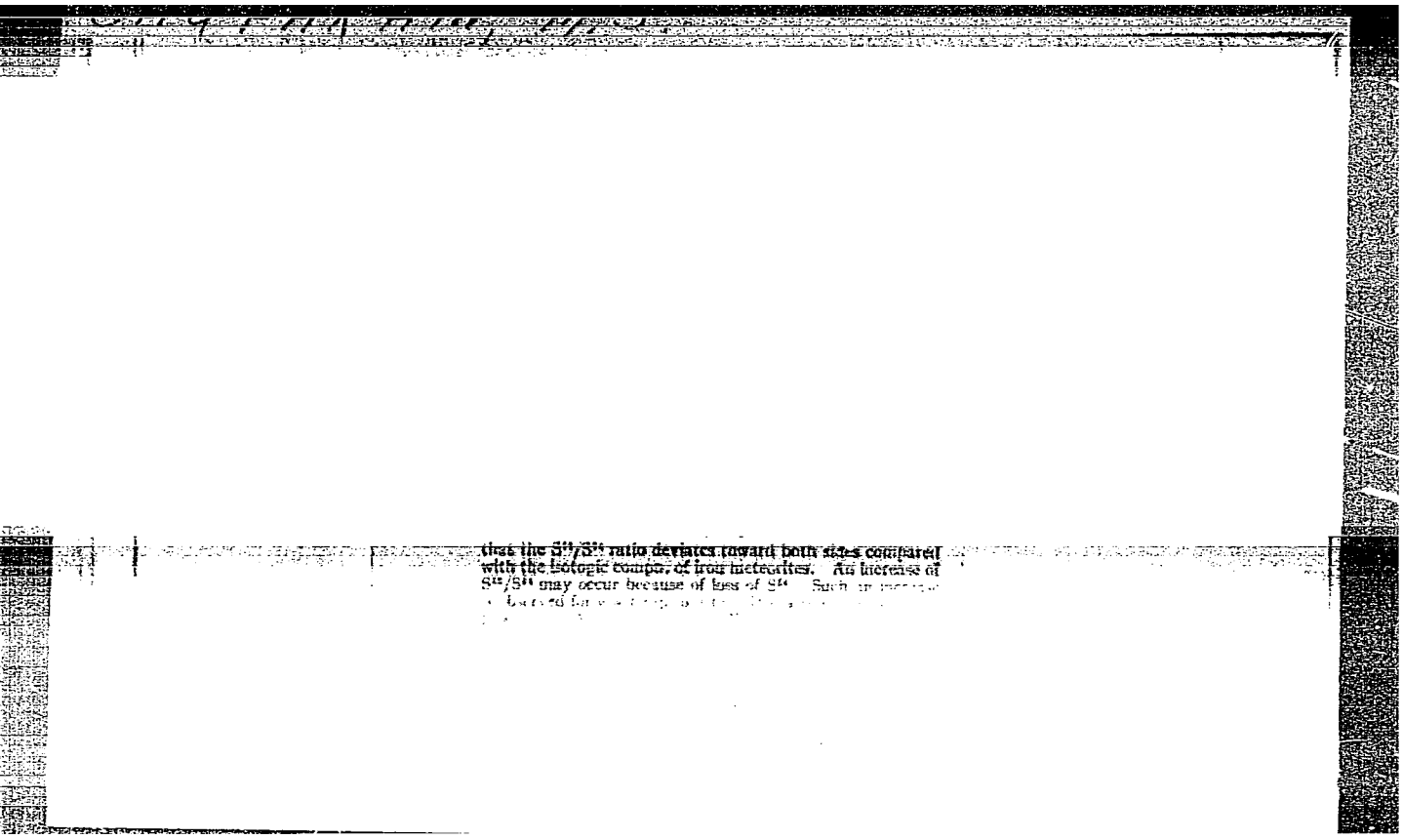
Wear of the process piping of thermal cracking units. Mash. i neft. obor. no.6:39-40 '65. (MIRA 18:7)

1. Kuybyshevskiy neftepererabatyvayushchiy zavod.

VINOGRADOV, A.P.; CHUPAKHIN, M.S.; GRINENKO, V.A.; TROFIMOV, A.V., [deceased]

Isotopic composition of sulfur in connection with the age of pyrites of sedimentary origin. Geokhimiia no.1:96-105 '56. (MLRA 9:9)

1. Institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR, Moskva.
(Sulfur--Isotopes)



that the S^{33}/S^{32} ratio deviates toward both sides compared with the isotopic compos. of iron meteorites. An increase of S^{33}/S^{34} may occur because of less of S^{34} Such an increase

CHUPAKHIN, M.S.

VINOGRADOV, A.P.; CHUPAKHIN, M.S.; GRINENKO, V.A.

Some data on the isotopic composition of the sulfur of sulfides [with summary in English]. Geokhimiia no.3:183-186 '57. (MLRA 10:7)

1. Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR, Moskva.

(Sulfur--Isotopes) (Sulfides)

CHUPAKHIN M.S.

AUTHOR: None Given 5-6-14/42

TITLE: Chronicle of the Activity of the Paleontological Section (Khronika deyatel'nosti paleontologicheskoy sektsii)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiy, 1957, # 6, pp 127-128 (USSR)

ABSTRACT: The following reports were delivered in the Paleontological Section from 19 April to 10 May 1957:

I.A. Mikhaylova on "Systematization of Paragoplitides (?)"; V.V. Drushchits on "Paleontological Basis for the Stratigraphy of the Lower-Cretaceous Deposits in the Crimea"; B.T. Yanin on " Lower-Cretaceous Trigonias of the Crimea"; R.V. Teys, D.P. Naydin and M.S. Chupakhin on "Determination of Paleotemperatures by the Isotopic Composition of Oxygen in Organogenous Calcite"; and R.F. Gekker, A.I. Osipova and A.D. Slyusareva on the "Kazan' Sea of the Russian Plateau and Its Fauna".

AVAILABLE: Library of Congress

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CHUPAKHIN, M.S.

AUTHORS: Teys, R.V., Naydin, D. P., Chupakhin, M.S. 5-6-41/42

TITLE: Determination of Paleotemperatures by the Isotopic Composition of Oxygen in Organogenous Calcite (Opredeleniye paleotemperatur po izotopnomu sostavu kisloroda organogennogo kal'tsita)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiy, 1957, # 6, p 153 (USSR)

ABSTRACT: The method of isotopic paleothermometry is based on the equilibrium distribution of the heavy isotope of oxygen O^{18} between the oxygen of water and $CaCO_3$ precipitated from the water. This distribution depends on the temperature of precipitation. Many characteristics of the paleobiology of fossil organisms (life duration, surrounding medium, etc) can be cleared up by making use of temperature "records" in carbonates.

The authors elaborated an experimental temperature scale which was obtained by settling $CaCO_3$ out of $Ca(HCO_3)_2$ solutions in a thermostat at various temperatures. Comparing with this scale, several dozens of fossil shells from the Cretaceous deposits of the Russian plateau and Crimea were investigated. The most reliable results were obtained from belemnites whose calcite preserves the initial isotopic

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5-6-41/42

Determination of Paleotemperatures by the Isotopic Composition of Oxygen in Organogenous Calcite

composition of oxygen without alterations. The authors present some temperature values obtained by this method by using belemnites, oysters and other fossils from various stratigraphic formations.

AVAILABLE: Library of Congress

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CHUPAKHIN, M. S.: Master Tech Sci (diss) -- "The development of precision methods of measuring the isotope relationships of light elements on a type MS-2M mass-spectrometer". Moscow, 1958. 13 pp (Min Higher Educ USSR, Moscow Order of Lenin Chem-Tech Inst im D. I. Mendeleyev), 170 copies (KL, No 7, 1959, 126)

3(8)

AUTHORS: Petrovskaya, N. V., Grinenko, L. N., Chupakhin, M. S.

SOV/7-58-8-3/8

TITLE: Experimenting Sulfur Isotope Analysis in the Investigation of the Chalcopyrite Deposit of Uchaly (Southern Ural) (Opyt primeneniya izotopnogo analiza sery pri izuchenii mednokolchedannogo mestorozhdeniya Uchaly(Yuzhnyy Ural))

PERIODICAL: Geokhimiya, 1958, Nr 8, pp 727 - 734 (USSR)

ABSTRACT: 44 samples of sulfides and sulfates from the Uchaly deposit were examined. The S^{32}/S^{34}-ratio was determined with the mass spectrometer MS-2. Sulfur from the meteorite of Sikhote-Alin' was used as standard, its isotope ratio amounting to 22.20. The results and their deviations from the standard are recorded in a table. The isotope ratios show considerable deviations which do not depend on the type of mineral or on the region. This is indicative of different stages of ore formation. Pyrites of massive and intersparsed ores show the same isotope ratio and therefore can be classified into the same stage of formation. The subsequent copper-zinc mineralization led to

Experimenting Sulfur Isotope Analysis in the Investigation of the Chalcopyrite Deposit of Uchaly (Southern Ural) SOV/7-58-8-3/8

an isotope fractionation by processes of oxidation and reduction, particularly by the reaction $H_2S^{34} + S^{32}O_4^{2-} \rightleftarrows H_2S^{32} + S^{34}O_4^{2-}$. There are 1 table and 12 references, 7 of which are Soviet.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy gornorazvedochnyy institut redkikh, rasseyannykh i blagorodnykh metallov, Moskva (Central Scientific Research Institute for the Prospecting of Rare, Trace and Precious Metals, Moscow)

SUBMITTED: July 12, 1958

Card 2/2

5(2), 21(5)
AUTHOR: Chupakhin, M. S. SOV/75-14-3-13/29

TITLE: The Recording of the Isotopic Ratio of Oxygen From Carbon Oxide (Registratsiya izotopnogo otnosheniya kisloroda iz okisi ugleroda)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 3, pp 331-335 (USSR)

ABSTRACT: In this paper an ion receiver is described which makes possible to change the distance of the collector gaps from 7 to 11 mm, and a simultaneous recording of the mass 28 ($C^{12}O^{16}$) and 30 ($C^{12}O^{18}$) (Fig 1). The receiver plates consist of 0.3 mm tantalum sheet and are screened-off against the falling-in of secondary electrons. Figure 2 shows the supplementary device made of glass by means of which both the CO-sample to be tested, and a CO-standard sample are connected with the ion source of the mass spectrograph. In order to determine the absolute ratio O^{16}/O^{18} in the standard sample, SO_2 was chosen as standard, which was obtained from troilite and the isotopic ratio of

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SOV/75-14-3-13/29

The Recording of the Isotopic Ratio of Oxygen From Carbon Oxide

which S^{32}/S^{34} = 22.200 is well-known and identical for all meteorites. There are 4 figures, 3 tables, and 8 references, 6 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR,Moskva
(Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences, USSR, Moscow)

SUBMITTED: May 20, 1958

Card 2/2

AUTHORS: Devirts, A. L., Chupakhin, M. S., Candidate of Technical Sciences

S/030/60/000/03/019/044
B015/B007

TITLE: International Symposium on C^{14}

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, Nr 3, pp 81-82 (USSR)

TEXT: The symposium took place at the University of Groningen (Netherlands) from September 15 to September 20, 1959. It was attended by about 50 delegates from 12 countries. At present, a number of problems of geology, geochemistry, oceanology, and archeology is being solved by means of the radiocarbon method of dating. In order to be able to compare the results obtained by various laboratories throughout the world, a uniform international standard of present-day radiocarbon in the form of oxalic acid was recommended. A stock of this acid is in the U.S. National Bureau of Standards. For the purpose of establishing an ordered system of notation for all research results published with respect to C^{14}, it was recommended that each laboratory chose two letters of the alphabet for its articles and mentions the number of the sample. The Institut geokhimii i analiticheskoy khimii Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry of the Academy of Sciences of the USSR) decided that from 1960 onward the laboratory will, for the purpose of determining the age according to C^{14}, denote the samples by "Mo" and the corresponding number.

Card 1/1

CHUPAKHIN, M.S.

Introduction of analyzed gases into the ion source of a mass spectrometer. Zhur.anal.khim. 15 no.2:155-158 Mr-Ap '60. (MIRA 13:7)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogog AN SSSR, Moskva.

(Gases--Analysis) (Spectrometer)

CHUPAKHIN, M. S. ; NAYDIN, D. P.; TEYS, R. V.

"Determination of Paleotemperatures according to the composition of oxygen of organogenous calcite"

Paper submitted at the International Geological Congress XXI Session - 1960 (Reports of Soviet Geologists) Problem No. 1, 15-24 Aug. 61

CHUPAKHIN, M.S.; MILLER, Yu.M.

Possible use of mass spectrometry for the detection of impurities in the analysis of pure materials (survey). Zav.lab. 27 no.8:1009-1012 '61. (MIRA 14:7)

(Mass spectrometry)

S/075/62/017/006/001/004
I032/I232

26.2312

AUTHOR: Chupakhin, M.S.

TITLE: A study of evaporation and thermionic emission by means of a three-filament ion source

PERIODICAL: Zhurnal analiticheskoi khimii, v.17, no.6, 1962, 665-669

TEXT: The study was made in connection with an investigation into the feasibility of using a mass-spectrometer for micro-determination of elements. Experiments with 15 elements were carried out. A three-filaments ionic source was used. The total ionic current was measured in each case for two experimental set-ups: (a) the sample was vaporised from the central filament, and (b) the sample was vaporised from one of the side filaments. It was found that the ratio

Card 1/2

S/075/62/017/006/001/004
I032/I232

A study of evaporation...

of the total ionic current in case (a) to the total ionic current in case (b) was different for the different elements. The ionic current depends also on the chemical nature and the shape of the surface of the vaporiser. This effect is attributed to the formation of oriented dipoles at the surface of the vaporiser. There are 1 figure and 3 tables. English references read: Aldrich, L.T., Jour. Appl. Phys. 22, 1168, (1951). Langmuir, Phys, Rev. 22, 357 (1932).

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR, Moskva (V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, USSR, Moscow)

SUBMITTED: September 13, 1961

Card 2/2

32836
S/020/62/142/002/017/029
B104/B138

24.6800

AUTHORS: Chupakhin, M. S., and Gradshtayn, E. (Orsay)

TITLE: Effect of oriented ion formation in a three-filament ion source of a mass spectrometer

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 2, 1962, 337-339

TEXT: The authors improved the accuracy of mass-spectrometric determinations by using a three-filament ion source (Fig. 1) in which it was possible to heat all three filaments (Fig. 2). Each of these could be used as the vaporizer while the other two acted as ionizers. The ion source had a slit of 0.1 mm. An MB2302 (MV2302) mass spectrometer was used as analyzer. A definite amount of sulfide, carbonate, or similar compound of the element to be investigated was applied to the vaporizer. The chemical compound used was not found to affect the ion yield. In the course of the experiment the ion current was determined after applying the samples to filaments (1) or (2). Evaporation took place without ionization, and ions were produced by the filaments acting as ionizers. After 15 different elements had been examined three different groups of elements could be

Card 1/4

Effect of oriented ion formation ...

established: (1) the ion current of elements with two electrons in the outer orbit (Ba, Sr, V, Mg, Co, Fe, Mn) is many times greater if the samples are applied to filaments (2) or (3). (2) The ion current of elements with one or three electrons in the outer orbit (Li, Al, Cr, Re, In) is larger with samples evaporated from filament (1). As for Pb, it did not matter from which filament the sample was evaporated. Nd formed NdO^+ ions only. The oxidation of ionizers increased the determination accuracy for some elements. Academician A. P. Vinogradov and Professors Zh. Teyak and R. G. Bernas (Orsay, France) are thanked for their cooperation. There are 2 figures, 1 table, and 4 non-Soviet references: The three references to English-language publications read as follows: W. G. Inghram, W. A. Chupka, Rev. of Sci. Inst., 24, 518 (1953); B. M. Gardon, L. Friedman, Phys. Rev., 108, 1053 (1957). E. Gradsstain, J. Phys. Rad., 21, 54 (1960).

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, AS USSR)
(M. S. Chupakhin)

Card 2/4

S/020/62/142/002/017/029
B104/B138

Effect of oriented ion formation ...

PRESENTED: June 20, 1961, by A. P. Vinogradov, Academician

SUBMITTED: June 15, 1961

Fig. 1. Diagram of three-filament ion source.
Legend: (1), (2), and (3) are the filaments; (4) drawing out plate; (5) focusing plate; (6) beam centering plate; (7) accelerating lens.

Fig. 2. Position of filaments in the ion source. (1), (2), and (3) filaments, + 2500 v; (4) shield, + 2500 v; (5) drawing out plate, + 2200 v.

Card 3/4

CHUPAKHIN, M.S.

Study of evaporation and thermionic emission by means of a three-ribbon filament ion source. Zhur.anal.khim. 17 no.6:665-669 S '62. (MIRA 16:1)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo AN SSSR, Moskva.
(Thermionic emission) (Mass spectrometry)

L 10614-63 EWT(1)/BDS AFFTC/ASD/SSD

ACCESSION NR: AP3001024 S/0075/63/018/005/0618/0623

AUTHOR: Chupakhin, M. S.; Glavin, G. G. 56 54

TITLE: Mass spectrographic determination of micro-impurites in solid substances

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 5, 1963, 618-623

TOPIC TAGS: mass spectra, sensitivity, accuracy, reproducibility, classification of impurities, polyatomic molecules, mass spectrography

ABSTRACT: Methods are reported for recording microimpurities in solid materials, for deciphering the mass spectra and for calculating the concentration of the impurities. The sensitivity of the method, accuracy, and reproducibility of the results were studied (mass spectrograph MS-7 was used). The possibility of classifying the impurites as evenly-distributed, introduced or occluded (irregularly distributed) was shown. The impurity content in a sample of Pt and of Ag was determined. By analyzing the "impurities" in spectrally clean graphite, the concentration of carbon polyatomic molecules was determined; a connection between this yield and the structure of the solid phase was shown. "The authors express sincere thanks to A. P. Vinogradov and N. P. Sakhin for constant interest in our investigations." Orig. art. has: 3 tables, 6 figures

Card 1/2

L 10614-63

ACCESSION NR: AP3001024

2

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR i gosudarstvenny*y nauchno-issledovatel'skiy i proyektny*y institut redkometallicheskoy prom*shlennosti, Moskva (Institute of Geochemistry and Analytical Chemistry and State Scientific-Research and Design Institute of Rare Metal Industry, Moscow)

SUBMITTED: 07Sep62 DATE ACQD: 12Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 001 OTHER: 010

Card 2/2

L 19689-63 EWT(1)/EWG(k)/EWP(q)/EWT(m)/EWP(B)/BDS AFFTC/ASD/ESD-3/
IJP(C) .. Pz-4 AT/JD/JG
ACCESSION NR: AP3007384 S/0075/63/018/009/1059/1062

AUTHOR: Chupakhin, M. S.

TITLE: Thermionic emission of lead on tungsten and rhenium

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 9, 1963, 1059-1062

TOPIC TAGS: ion source, lead, contact ionization, tungsten, rhenium, mass spectrometry, surface ionization, lead ion, thermionic emission

ABSTRACT: The use of thermionic sources for mass spectroscopy is usually limited to elements with ionization potentials lower than 5 ev because elements with higher potentials give very low ionization currents. To develop a source for generating lead ions (ionization potential 7.39 ev), experiments were made in a contact ionization source equipped with a reflector, evaporator, and ionizer strip. The temperatures of the reflector and ionizer strip were 1100 and 2200K, respectively. The average ion current increased considerably when the lead-nitrate sample on the evaporator was covered with a small amount of magnesium nitrate or boric acid, both of which converted to oxides during heating of the strip. This effect is

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L 19689-63
ACCESSION NR: AP3007384

apparently caused by the oxide film formed on the evaporator. The average ion current for 30 min without the oxide film was 10^{-13} amp; in the presence of the oxide film, it amounted to 10^{-11} for 60 min. When a rhenium ionizer strip was used instead of a tungsten strip, the ion current increased seven times. However, the use of rhenium as reflector or evaporator material did not offer any advantage. The lead ion current was 1.5×10^3 times higher using magnesium nitrate with a rhenium strip than when a tungsten strip without the additives was used. Orig. art. has: 4 figures.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo, AN SSSR, Moscow (Institute of Geochemistry and Analytical Chemistry, AN SSSR)

SUBMITTED: 24Jan63 DATE ACQ: 14Oct63 ENCL: 00

SUB CODE: PR, PH NO REF SOV: 004 OTHER: 000

Card 2/2

CHUPAKHIN, M.S.; GLAVIN, G.G.; DUYEV, L.T.

Polyatomic graphite molecules. Zhur. tekh. fiz. 33 no.10: 1281-1284 O '63. (MIRA 16:11)

L 12668-63 BDS

ACCESSION NR: AP3002876 S/0020/63/150/005/1059/1061

AUTHOR: Chupakhin, M. S.; Glavin, G. G.; Fistul', V. I.

55
51

TITLE: Deposits in heavy-alloyed silicon 27

SOURCE: AN SSSR. Doklady*, v. 150, no. 5, 1059-1061 1963

TOPIC TAGS: heavy-alloyed silicon, mass-spectrograph, monocrystalline silicon, defect, structure

ABSTRACT: A method registering the composition of solid substances in a MS-7 mass-spectrograph with double focus and spark ion source was used during an investigation of monocrystalline silicon. Molecules from Si sub 2 to Si sub 7, and in one specimen, Si sub 8, were observed. In order to investigate the mechanism of formation of these deposits, samples of silicon carbide were examined. Lines of polyatomic ions observed on the plate reflect the structure of solid body, i.e., the molecules of silicon corresponding to it are found in the monocrystal and are not products of the association of the pair, since this takes place in the Knudsen effusion cell. It is assumed that a decrease in defects in the structure with formation of localized donor levels in a prohibited zone with comparatively low energy of ionization. "In conclusion, we consider it our pleasant duty to thank

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L 12668-63
ACCESSION NR: AP3002876

4

Academician A. P. Vinogradov, Corresponding Member of the AN SSSR, N. P. Sazhin, and Professor Ye. S. Makarov, who took part in discussions of this work and expressed a series of valuable opinions and observations at various stages of its execution." Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii, im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry, Academy of Sciences SSSR)

SUBMITTED: 24Dec62 DATE ACQ: 15Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 002 OTHER: 003

Card 2/2

CHUPAKHIN, M. S.

The Second All-Union Conference on the Preparation and Analysis of High-Purity Elements, held on 24-28 December 1963 at Gorky State University im. N. I. Lobachevskiy, was sponsored by the Institute of Chemistry of the Gorky State University, the Physicochemical and Technological Department for Inorganic Materials of the Academy of Sciences USSR, and the Gorky Section of the All-Union Chemical Society im. D. I. Mendeleyev. The opening address was made by Academician N. M. Zhavoronkov. Some 90 papers were presented, among them the following:

M. S. Chupakhin. The prospects for mass-spectroscopic analysis of high-purity solids by isotopic dilution and vacuum spark methods.

A. A. Tumanov. Biological determination of microquantities of Zn, Cu, Cd, Ag and sulfides.

(Zhur. Anal. khim, 19 No.6, 1964 p.777-9)

CHUPAKHIN, M.S.

Thermionic emission of lead on tungsten and rhenium. Zhur. anal. khim. 18 no.9:1059-1062 S '63. (MIRA 16:11)

1. V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.

CHUPAKHIN, M.S.; GLAVIN, G.G.

Mass spectrometry of microimpurities in solid substances.
Zhur. anal. khim. 18 no.5:618-623 My'63. (MIRA 17:2)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR i Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti, Moskva.

L 16655-65 EWT(1) ESD(gs)/ESD(t)/AEDC(b)/SSD/AFWL/AS(mp)-2

ACCESSION NR: AP4042623 S/0075/64/019/007/0821/0828

AUTHOR: Chupakhin, M. S.; Glavin, G. G.

TITLE: Mass spectra of certain solid substances and their interpretation

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 7, 1964, 821-828

TOPIC TAGS: mass spectrum, mass spectrometer, mass spectral analysis, mass spectrum interpretation, ion formation mechanism, thermionic emission, ion excitation, polyatomic molecule

ABSTRACT: Three mechanisms of ion formation from solid substances in the spark source of a mass spectrometer are discussed. Cathodic atomization of the substance with a high frequency impulse spark in vacuum is considered to be the principal mechanism of ion excitation; the atomization is due to ion impact and volatilization, but the average electrode surface temperature is no higher than 500-700K. Polyatomic molecules are formed, as shown by the presence of up to C_{20} in graphite, Si_7 in silicon, and molecules such as Si_3C, Si_4C, Si_2C_2, SiC_5,

Card 1/3

etc. in silicon carbide. Multicharged ions are formed; in pure silicon the ratio of Si^{+}/Si^{++} is about 10. The one-, two-, and possibly three-charged ions and polyatomic molecules are formed differently than ions with higher charges. The latter are believed to be formed in the spark channel at plasma temperatures of about 40,000K. Ions may be formed by thermionic emission of elements with low ionization potential which especially true for Li, Na, K and Ca. Ionization also occurs with electronic and ionic impact involving ions of residual gases, molecules and molecule fragments of hydrocarbons entering the ion source from the diffusion pump, and atoms from previous samples. Concentrations of atomic and molecular oxygen which are observed on the analysis of a number of substances are given. "In conclusion we thank A. P. Vinogradov, N. P. Saghin, I. P. Alimarin, D. I. Ryabchekov for advice and interest in our investigations. We sincerely thank V. I. Fistul for participation in evaluating results and L. G. Abelev for help in setting up tests and planning the work." Orig. art. has: 2 tables, 5 equations and 3 figures.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo

L 16655-65
ACCESSION NR: AP4042623

2

AN SSSR (Institute of Geochemistry and Analytical Chemistry AN SSSR)
Gosudarstvenny*y nauchno-issledovatel'skiy i proyektny*y institut redkometalli-
cheskoy promy*shlennosti, Moscow (State Scientific Research and Design Institute
for the Rare Metal Industry)

SUBMITTED: 27Jul63 ENCL: 00

SUB CODE: GC, GP NO REF SOV: 003 OTHER: 005

Card 3/3

CHUPAKHIN, M.S.; GLAVIN, G.G.; KARPOV, Yu.A.; KORMILITSYN, D.V.

Mass spectrum analysis of oxygen in titanium. Dokl. AN SSSR 158 no.3: 689-691 S '64. (MIRA 17:10)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo AN SSSR. Predstavlena akademikom A.P.Vinogradovym.

CHUPAKHIN, M. S.

"Massenspektroskopische Untersuchung vielatomiger Molekulionen von Festkorpern und deren analytische Anwendung."

report submitted for 2nd Intl Symp on Hyperpure Materials in Science and Technology, Dresden, GDR, 28 Sep-2 Oct 65.

Institut geokhimii i analiticheskoy khimii im Vernadskogo Akademii nauk SSSR, Moscow.

CHUPAKHIN, M.S.; KOMAROVTSYN, D.V.

Mass spectral analysis of solids (survey). Zhur. anal. khim. 20 no.6:709-718 '65. (MIRA 18:7)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR i Gosudarstvennyy nauchno-issledovatel'skiy institut redkometallicheskoy promyshlennosti, Moskva.

L 18053-66 EWP(e)/EWT(m)/T/EWP(t) IJP(c) JD/WW/GS/WH
ACC NR: AT6006172 SOURCE CODE: UR/0000/65/000/000/0130/0134

AUTHOR: Chupakhin, M. S.; Glavin, G. G.; Fistul', V. I.

ORG: none

62
B+1

TITLE: Atomic aggregates in semiconductor materials

SOURCE: Khimicheskaya svyaz' v poluprovodnikakh i tverdykh telak (Chemical bond in semiconductors and solids). Minsk, Nauka i tekhnika, 1965, 130-134

TOPIC TAGS: mass spectrum, graphite, silicon, silicon carbide, gallium arsenide

ABSTRACT: Mass spectra of graphite, silicon, silicon carbide and gallium arsenide were taken with a high resolution mass spectrometer and analyzed. It was often found that the mass spectra contained lines characteristic of ionic species of multiatomic aggregates in very minute concentrations (as low as 10^{-7}%). It was found that the yield of such charged multiatomic aggregates is independent of discharge intensity within 40-70 kev, pulse frequency within 10-30,000 cps, and pulse duration within 25-200 μsec. An analysis of the mass spectra of graphite, silicon, and silicon carbide is presented. In crystals of silicon-arsenic alloys, a correlation

Card 1/2

2

L 18053-66

ACC NR: AT6006172

0

was found between the yield of charged multiatomic aggregates and the arsenic content in the alloy. It is concluded that the correlation between the yield of charged multiatomic aggregates and the physical properties of the solid materials indicates that mass spectra of multiatomic molecules reflect the structure of the solid crystal lattice. Orig. art. has: 2 figures, 2 tables.

SUB CODE: 07,20/ SUBM DATE: 31May65/ ORIG REF: 003/ OTH REF: 000

Card 2/2 SJN

L 04638-67 EWT(l)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AP6024391 SOURCE CODE: UR/0020/66/169/002/0328/0331

62
AUTHOR: Chupakhin, M. S.; Bibikova, Ye. V.; Polyakov, A. L. 61 B

ORG: Institute of Geochemistry and Analytical Chemistry im. V. I. Vernatskiy, Academy of Sciences SSSR (Institut geokhimii i analiticheskoy khimii Akademii nauk SSSR)

TITLE: Formation of thermionic ions with the aid of emitters

SOURCE: AN SSSR. Doklady, v. 169, no. 2, 1966, 328-331

TOPIC TAGS: ion emission, thermionic emission, semiconducting film, oxide

ABSTRACT: This is a continuation of work by one of the authors (Chupakhin, ZhAkh v. 17, 665, 1962 and v. 18, 1059, 1963, and earlier) dealing with enhanced emission of ions from various substances by using emitters with sorbent materials. A three-ribbon thermionic ion source was used to compare the ionizing ability of three widely used sorbents in mass spectroscopy, namely silica gel, aluminum-silica gel, and zirconium-silica gel. The main purpose of the investigation was to determine the mechanism whereby ionization is produced with the aid of emitters, since the high efficiency of the emitters seems to contradict the Langmuir-Saha equation. The indicator elements used were lead and zinc, controlled batches of which were deposited on sorbents made of nitric acid solutions of their salts. The evaporator temperature ranged from 1400 - 1700°, depending on the type of sorbent and on the heater material. It is concluded that during the heating of the evaporator, an emitter layer is produced from the sorbent, and simultaneously the atoms of the investigated element dif-

Card 1/2 UDC: 545.85

L 04638-67

ACC NR: AP6024391

fuse into this layer. The emitter layer consists of oxides which are normally insulators, and acquire semiconducting properties at high temperatures, of the barrier-layer type. The surface of the emitter layer and the surface of the heater form a capacitor with high field intensity, thus enhancing the emission of ions. Various aspects of the mechanism are described in some detail. This interpretation does not contradict the Saha-Langmuir equation. The authors thank Academician A. B. Vinogradov for interest in this research. This report was presented by Academician A. B. Vinogradov 29 October 1965. Orig. art. has: 4 figures and 4 formulas.

SUB CODE: 20/ SUBM DATE: 25Oct65/ ORIG REF: 006

awm

Card 2/2

ACC NR: AP7008694 SOURCE CODE: UR/0020/67/172/005/1102/1104

AUTHOR: Chupakhin, M. S.

ORG: Institute of Geochemistry and Analytical Chemistry im. V. I. Vernadskiy, Academy of Sciences, SSSR (Institut geokhimii i analitichoskoy khimii Akademii nauk SSSR)

TITLE: Distribution of microimpurities in solids

SOURCE: AN SSSR. Doklady, v. 172, no. 5, 1967, 1102-1104

TOPIC TAGS: crystal impurity, gallium arsenide, titanium, mass spectrometry, tellurium

ABSTRACT: Tellurium-doped gallium arsenide containing silicon was analyzed by mass spectral analysis, and titanium samples with a comparable impurity content were analyzed by chemical, spectral and radioactivation methods. The data showed that the impurities were homogeneously distributed in the matrix if their concentration did not exceed $n.10^{-2}$–10^{-4} at. %. Assuming that the mechanism of removal of atoms from a solid during etching is similar to their vaporization, the author studied the formation of ions during cathodic sputtering of As-doped silicon and germanium in the vacuum spark of a mass spectrometer. As the As content rose, the ratio Me^{+}/Me^{2+} increased, while the etch pits disappeared. The presence of defects was found to change the conditions of ion formation in the vacuum spark. Thus, the mechanism of formation of singly and doubly charged ions was found to be sensitive to local disarrangements of structure. It is concluded that defects constitute impurity concentrations. The paper was presen-

Card 1/2 UDC: 543.51

ACC NR: AP7008694

ed by Academician Vinogradov, A. P., 22 Apr 66. Author is deeply grateful to Acad. A. P. Vinogradov for discussing the results and for a constant interest in this study. Orig. art. has: 1 figure and 3 tables.

SUB CODE: 07/ 20/ SUBM DATE: 18Apr66/ ORIG REF: 004/ OTH REF: 001

Card 2/2

CHUPAKHIN, N.

Efficiency of the brining method of raw leather preservation. Mias.ind. SSSR 33 no.5:28-30 '62. (MIRA 15:12)

1. Rostovskiy-na-Donu myasokombinat.
(Hides and skins--Preservation)

BAYULA, A.G.; CHUPAKHIN, N.I.; ZAKASOVSKAYA, M.V.; YAROSHEVSKAYA, N.F.

Concentration of poor carbonate-phosphate ores of the Tigrovaya Pad' deposit. Soob. DVFAN SSSR no.17:27-31 '63.

(MIRA 17:9)

1. Dal'nevostochnyy filial im. V.L. Komarova Sibirskogo otdeleniya AN SSSR.

CHUPAKHIN, N.

"Suggestions of Rationalizers," Kholodil. Tekh., No. 2, 1948.

Engr., VNIKhI

CHUPAKHIN, N.

PA 38/49T70

USSR/Engineering Jan/Mar 49
Refrigerators
Pipes - Cleaning

"Condenser Losses and Methods of Eliminating Them," N. Chupakhin, Engr, All-Union Sci Res Refrigeration Inst, 3 pp

"Kholodil Tekh" No 1

At present it requires 4 to 6 man-days to clean one section of a spraying condenser, using simple mechanical method. Even then, pipes are not clean, which results in serious power losses (power expended increases 4% for 1° C rise in [redacted]
38/49T70

USSR/Engineering (Contd) Jan/Mar 49

condensation temperature). Proposes "combined" method which consists basically of three steps: (1) pumping out the ammonia, (2) using metallic brushes, and (3) final cleaning with hydrochloric acid solution.

[redacted]
38/49T70

CHUPAKHIN, N.

"Repair of a Compressor Cylinder," Khol. Tekh., 29, No.1, 1952

CHUPAKHIN, N., inzhener.

Elimination of knocks in compressors. Khol.tekh. 30 no.2:69-70 Ap-Je '53.
(MLRA 6:7)
(Compressors)

CHUPAKHIN, N., inzhener.

Methods of repairing worn out crankpins in compressors. Khol. tekh. 31 no.3:72-73 Jl-S '54. (MLRA 7:9)
(Cranks and crankshafts)

CHUPAKHIN, N., inzhener.

Oil consumption in vertical ammonia compressors and its control.
Khol.tekh. 31 no.4:72-73 O-D '54. (MIRA 8:1)
(Compressors)

CHUPAKHIN,N.

CHUPAKHIN,N., inzhener

Ammonia valve for the switching of safety valves. Khol.tekh. 32 no.2:44-45 '55. (MLRA 8:10)
(Refrigeration and refrigerating machinery--Safety measures)

CHUPAKHIN, N.

CHUPAKHIN, N., inzhener

Reduction in bronze quantity used for refrigerating equipment repairs. Khol.tekh.32 no.2:68-71 Ap-Je '55. (MLRA 8:10)
(Bronze) (Refrigeration and refrigerating machinery)

CHUPAKHIN, N., inzhener.

Repairing the crankshaft of a vertical compressor by the shrink fit method. Khol.tekh. 32 no.3:54-55 Jl - S- '55. (MLRA 9:1)
(Compressors) (Cranks and crankshafts)

CHUPAKHIN, N., inzhener.

Checking the condition of a crankshaft and the exactitude of its installation. Khol.tekh. 32 no.4:62-68 O-D '55. (MIRA 9:4)
(Compressors) (Cranks and crankshafts)

CHUPAKHIN, N., inzhener.

Testing the quality of metals used in equipment repairing. Khol.tekh. 33 no.2:66-67 Ap-Je '56. (MLRA 9:9)
(Metals--Testing)

AUTHOR: Chupakhin, N., Engineer. 66-1-19/26

TITLE: Improving the wear resistance of the cylinder, the piston and piston rings. (Povysheniye iznosoustoychivosti tsilindra, porshnya i porshnevykh kolets).

PERIODICAL: "Kholodil'naya Tekhnika" (Refrigeration Engineering), 1957, No.1, pp.58-60 (U.S.S.R.)

ABSTRACT: For manufacturing wear resistant cylinders and cylinder liners low alloy and innoculated cast iron are suitable materials. Experience relating to non-uniform wear, seizing and other deficiencies in compressor equipment produced by various Soviet Works is discussed and also measures for overcoming individual shortcomings. In the latter part of the paper the author deals particularly with the design of piston rings and the piston configuration, whereby particular attention is paid to the oil flow and it is mentioned that the here described design (shown in Figs. 1 to 3) will also reduce considerably the oil consumption.
There are three figures.

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1. Rostovskiy-na-Donu myasokombinat.
(Rostov-on-Don--Meat industry--Finance)

CHUPAKHIN, Nikolay Mikhaylovich, inzh.; RUDOMETKIN, Fedor Ivanovich, inzh.; BONDARENKOV, K.A., spets.red.; CHICHKOV, N.V., red.; MASLOVA, Ye.F., red.; SUDAK, D.M., tekhn.red.

[Assemblage, maintenance, and repair of refrigerating machinery] Montazh i remont kholodil'nykh ustanovok. Moskva, Gos.izd-vo torg.lit-ry, 1960. 328 p. (MIRA 13:5)
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